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Assessment of the Macroeconomic Risk Analysis of International Credit Rating Agencies against the Principles of Soundness and Credibility

SUMMARY: International credit rating agencies regularly (twice a year) assess the risk level of sovereign debt, and thus that of a given country. In order to identify risks, each credit rating agency has developed its own methodology to assess economic and public finance processes and identify the emerging risks. The evaluations carried out influence at the international level the financing possibilities of a given country and its conditions. The improving result of evaluations by international credit rating agencies has become one of the requirements for the success of economic policy. However, this can only be a realistic condition and a measure of success if the evaluation made is methodologically sound and the evaluations resulting from their consistent implementation are scientifically credible. This article describes in detail the evaluation methodology applied by the three major international credit rating agencies to evaluate the individual countries and sovereign debt. After presenting the general aspects, the article draws attention to the fact that the principles of objectivity, authenticity and methodological determination are enforced in practice in the evaluations of international credit rating agencies to a limited extent.

KEYWORDS: public debt, international credit rating agencies, evaluation methodology, objectivity, credibility

JEL CODES: G24, H30, H63, M19

DOI: https://doi.org/10.35551/PFQ_2019_3_2

Many organizations in the financial markets conduct macroeconomic risk analysis. These include international credit rating agencies, the European Commission (when preparing country reports), the International Monetary Fund (IMF), the World Bank and the

Organization for Economic Cooperation and Development (OECD), and various advisory companies that carry out evaluations as well.

These organizations basically fall in two large categories. One includes those that typically deal with the evaluation and forecasting of individual macroeconomic variables and economic growth in general. For them, basically, macroeconomic risks are risks that threaten economic growth.

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Their analyses and evaluations provide conclusions on the development of economic growth based on macroeconomic factors (such as investment, demand for loans, inflation, consumption, savings, etc.), typically without any specific methodology.

The second group includes international credit rating agencies, which are important players in the international financial system. The basic tasks of these companies include evaluating the organizations that issue different products in the financial and capital markets in terms of the risk for the investor to purchase a financial product issued by another economic player (Tözsér, 2015). Alternatively, they assess the likelihood that the economic operator borrowing the funds will not be able to repay its debt and the related returns.

A common characteristic of the activities of international credit rating agencies is that they carry out the evaluations in accordance with the methodology they have defined, in which the factors to be rated and the resulting rating categories are fixed (Fennel–Medvedev, 2011; Afonso et al., 2011; Langhor and Langhor, 2010).

The outcome of the rating is indicative for market participants in several respects. On the one hand, investors make their demand decisions according to the evaluation. For example, in the case of a security or issuer with a relatively higher risk, they may want to buy a smaller quantity once the rating results have been published. On the other hand, investors tend to base their yield expectation on the level of risk – the higher the risk, the higher the expected return. A deterioration of the evaluation results typically leads to an increase in yields on a given security, even in the short term. Thirdly, the results of the evaluation also have a regional impact. Money market events affecting the surrounding countries also influence the decisions of investors concluding transactions in a given region. For example, if the risk rating of sovereign debt issued by

a particular country deteriorates significantly, several investors may transfer their savings into adjacent countries or even other regions. This generally depends on the individual judgement and propensity of the investors to assume risks.

Examining the impact of ratings on the issuers' side, it can be stated that switching between rating categories also influences an issuer's financing options and the costs of funding (Gaál, 2014; Kiff et al., 2012). All this applies to public finances, too. Therefore, it is important to evaluate what criteria are used to rate the international risk of Hungarian sovereign debt and to what extent this evaluation meets the general requirements of scientific evaluation.

RATING METHODS OF INTERNATIONAL CREDIT RATING AGENCIES

Among the international credit rating agencies, three major institutions must be mentioned because of their importance and their extensive scope of activities. These are Fitch Ratings (FR'), Standard & Poor's (SP') and Moody's.

Evaluation Method of Fitch Ratings

Availability of the evaluation method

FR's rating activities include businesses, financial institutions, special financial products, various economic projects, and the securities issued by the state and local governments. The rating criteria are public and accessible to anyone on FR's official website. (<https://www.fitchratings.com/site/criteria>)

Methods and Limitations of the Evaluation

There are two individual rating methodologies for the evaluation of securities issued by countries and governments. One was specifically

developed by FR for the risk rating of countries (Fitch Ratings 2018a and 2019a) and the other one for that of sovereign debt (Fitch Ratings 2018b and 2019b).

According to the methodology, the country risks can be determined based on six main factor groups. These are the following:

- legislative and regulatory risk,
- institutional limitations to international trade and the free movement of capital,
- the degree of economic integration,
- the degree of financial integration,
- low and stable level of inflation,
- and the credibility of the exchange rate policy.

The factor groups are rated using 16 indicators and each factor group can have a rating from 0 to 3, where 0 means no risk. Each indicator is evaluated on a scale of 0-5. Each factor group has a weight value (10% for the first two and 20% each for the additional ones), based on which the joint evaluation can be made.

However, the methodology does not show the exact content of the indicators. For example, it is not defined in terms of the volatility of inflation for what period and using which method the value of the indicator is obtained and the content of flexibility of the exchange rate policy is not clearly identified either.

The assessment of country risk is primarily aimed at expressing solvency and typically reflects a country's crisis situation. Based on these, FR evaluates the majority of the countries according to whether or not there is a country risk for that given country. The last such risk warning was for Venezuela in 2017.

The risk assessment of sovereign debt follows a similar methodology to that of country risk. In the risk assessment of sovereign debt, the groups of factors include the following:

- structural features, which show the protective strength against various shocks

and risks stemming from the political system,

- macroeconomic performance, which expresses the pace and stability of economic growth,
- fiscal balance, which assesses the sustainability of the deficit and public debt and the evolution of long-term commitments,
- and the external balance, which measures the evolution of the balance of payment on current account, the capital account and the external debt.

Within each group of factors, the methodology defines key criteria and defines 3–6 indicators (18 in all) for the assessment of the current data and 3 indicators each to predict risks.

The assessment of each of the groups of factors can range from -2 to +2, where +2 means no risk. The weight of each group of factors is 54.7 percent, 10.5 percent, 16.7 percent and 18.1 percent, respectively.

The weights were determined using the regression model but this is not presented in more detail in the evaluation methodology. The proportion of each indicator was also determined using the above mentioned regression model.

In the case of structural characteristics, the indicators include the governance indicator. This is fundamentally based on the values of the World Bank's six governance indicators (rule of law, control of corruption, government effectiveness, voice and accountability, regulatory quality and political stability). The evaluation methodology recommends the use of these indicators, citing the reliability of the World Bank's measurement method.

In addition to clearly defined indicators (such as per-capita GDP, share of world export performance), the evaluation methodology includes a number of items whose content is not well defined (e.g. the time since economic

restructuring, political stability, political capacity or the primary balance based on scenario analysis). In addition, it uses the results of other competitiveness rankings (Doing Business and Human Development Index) for the indicators business environment and economic stability, the reliability of which is also questionable on the basis of the prompt.

In the case of indicators, it can be observed that those related to the financial sector are typically well defined and quantifiable, but public finance indicators are fundamentally based on derived indicators, with no clearly defined content.

The evaluation methodology also provides a general example of how the methodology works. This shows that the combined assessment of the indicators and groups of factors can be used to determine the overall risk rating of sovereign debt issued by a country ranging from AAA to the worst other category.

However, the methodology does not provide guidance as to what data is produced during the mid-term review of the evaluations, while no up-to-date data are yet available for that year. Thus it may occur that for example an indicator pertaining to the evaluation of a year includes data from the previous year or the year before.

Publicity of the completed evaluation

In the case of Hungary, FR published its announcement on 22 February 2019, according to which the rating was changed to BBB with a stable outlook (Fitch Ratings, 2019c). The announcement briefly presents the values of each indicator and a consolidated evaluation table can be found in the annex.

However, the assessment criteria do not explain the basis for predicting the indicator data for 2019 and 2020. All this is important because the announcement proposes a consistent upward trend in the 2018 data, but

gives no justification for an interruption of this trend.

Based on these, the main rating criterion is unclear and there is a uniformly positive or stable rating for each of the factor groups. For example, FR expects a decline in the value of the foreign trade balance to GDP ratio. Due to it, it is rated as high risk and then considers it a stable factor when assessing the group of factors.

However, FR's full evaluation is not publicly accessible. Thus, it is not possible to identify what factors were used in the review to modify the Hungarian rating, and to what extent and for what reasons the various indicators and other circumstances played a role.

Standard & Poor's evaluation method

Availability of the evaluation method

Similarly to FR, SP's rating activities include businesses, financial institutions, special financial products, various economic projects, and the securities issued by the state and local governments. The rating criteria are public and accessible to anyone on SP's official website. (https://www.standardandpoors.com/en_US/web/), but access is subject to free registration.

Methods and Limitations of the Evaluation

There is a uniform rating methodology for the evaluation of securities issued by countries and governments (Standard & Poor's, 2017). Similar to FR's evaluation method, the SP uses a group of factors and determines the rating of debtors through their combined assessment.

Risk rating is determined on five major groups of factors. These are the following:

- institutional environment,
- economic environment,
- external environment,
- financial environment,
- monetary environment.

The institutional environment assesses the risks of government institutions and budgetary decision-making, primarily in terms of the sustainability of the balanced budget and economic growth. The economic environment measures and assesses GDP growth and the development conditions of its components. The external environment includes the international convertibility of a given country's currency, the liquidity position of resident players and the size of their savings. The financial environment includes the level of indebtedness, its composition and the flexibility of the budget to respond to various shocks. The monetary environment assesses the balance of the exchange rate mechanism and the liquidity position of the financial system.

The factor groups are rated separately on a scale of 1 to 6, where 1 refers to the strongest ability and 6 to high risk.

The combined rating is obtained from a matrix, one dimension of which is the evaluation of the first two groups of factors and the other dimension consists of the other three factor groups. Based on these, the best rating category (aaa) appears in the top left corner and the worst in the bottom right corner of the matrix. However, the methodology does not define how the assessment of each dimension is obtained based on the 2 or 3 factor groups.

Both dimensions include two endpoints (excellent and weak) and 9 intermediate categories ranging from very strong to very weak.

There are a number of exceptions to the evaluation methodology when the evaluation differs from the assessment obtained in the matrix. For example, if the external debt is particularly high but all other conditions change in a positive direction, the rating may be better than 'b' (worst matrix rating). Or, if the economic operators have significant liquidity and all other conditions change in a positive

direction, the rating committee may consider that the rating is not overall excellent (aaa) due to a temporary or individual condition.

The individual factor groups tend to be assessed on the basis of general and non-quantified criteria for the institutional setting. There are five indicators for the economic and monetary factor group, ten for the external environment and six for the financial environment.

Regarding the institutional environment, the methodology mentions the efficiency, stability and predictability of budgetary institutions and political decision making, as well as transparency and accountability of data and processes. The latter main criterion examines the balance and control of the financial management of the institutions, the level of corruption, the implementation of the commitments and compliance with the legal regulations and whether the person responsible for producing statistical data and if the media are independent.

It is interesting to examine the conditions of the best evaluation in the methodology. According to this, the best rating is achieved through the economic balance and adequate control of institutions, compliance with the legal regulations, the free flow of information, and the timely and reliable availability of statistical data. However, the methodology include neither the description of these categories, the evaluation method nor the related indicators, or the method of data collection.

Using a comparison, regarding the rating of external debt, the rating is obtained with the help of a separate matrix on the basis of four types of criteria on a scale of 1-6. Each of these criteria is clearly identifiable on the basis of an indicator each. However, the methodology also establishes additional conditions that can shift the evaluation in a positive or negative direction. For example, these include a

significantly stronger net financing position in a positive direction and the volatility of the trade balance in a negative direction. For these conditions, the methodology also indicates the degree of deviation, which the evaluation is based on.

The evaluation methodology also contains general corrective criteria and methods. These include that if access to external resources is or, in the opinion of the Evaluation Committee, is becoming restricted, the aggregate rating may be modified downward. This is important because the methodology does not determine what the prediction is based on. The same applies to institutional risks. In this area, according to the methodology, the rating can be modified downward, if the evaluation reveals a serious and increasing risk. However, it does not specify when and under what conditions a given risk can be classified and evaluated as such. Based on these, the evaluator is given a considerable degree of freedom to modify the evaluation, even without an objective reason.

Publicity of the completed evaluation

In the case of Hungary, ST published its announcement on 15 February, 2019, according to which the rating was changed to BBB/A-2 with slow growth to a stable outlook (Standard & Poor's, 2019).

The announcement briefly describes the risks and circumstances identified. It highlights the pace of economic growth, the rise in gross wages and savings, the low level of the unemployment rate, the decline in gross external debt and the boom in automotive investment, making the foreign trade more robust.

Among the risks, the evaluation mentions the expected reduction in EU funds, which are likely to be 1-2% of GDP, and the demographic problems due to the rejection of migration as well as the low productivity of small and medium-sized enterprises. The special taxes on different sectors are named as

unfavourable government measures. Also, the slow rise in inflation and the rising prices on the housing market are classified as negative conditions.

The evaluation includes the data for each of the selected indicators, however, similar to FR's evaluation, it gives no explanation as to the basis of the forecast. However, there is a contradiction between the text of the evaluation and the forecast of the indicators. For example, the real GDP growth rate should not fall while the rate of inflation is constant and GDP is rising. In addition, the rating projects a worsening of the public debt ratio after 2020, while a drop of 2.4 percentage point of the indicator is forecast for 2022 compared to 2020. This leads us to conclude that the textual evaluation outlines a more pessimistic scenario than what the forecast of the indicators shows.

Consequently, there is a contradiction in the rating of the factor groups as well. The textual evaluation highlights the results of the economic environment, but when it came to the evaluation of the indicators, it was assigned a one notch worse than average rating. The same applies to the evolution of public debt within the financial environment. In contrast, the budget's flexible response capacity was rated 2, which is a strong positive rating. The rating does not explain what the evaluation was based on. This is particularly eye-striking for the institutional environment, where, for example, the rating does not include the evaluation of the legal environment and fiscal decision making, thus we don't know that the evaluation was based on.

Moody's evaluation method

Availability of the evaluation method

Moody's rating activities, similar to those of the other international credit rating companies,

include businesses, financial institutions, special financial products, various economic projects, and the securities issued by the state and local governments. The rating criteria are public and accessible to anyone on Moody's official website (<https://www.moody's.com>), but access is subject to free registration.

Methods and Limitations of the Evaluation

There is a uniform rating methodology for the evaluation of securities issued by countries and governments (Moody's, 2018). Similar to the evaluation method of the other two companies, Moody's uses a group of factors and determines the rating of debtors through their combined assessment.

Risk rating is determined on four major groups of factors. These are the following:

- the strength of the economic environment,
- the strength of the institutional environment,
- the strength of the financial environment,
- the strength of the propensity for risks to occur.

The evaluation of economic resilience is obtained through the assessment of the first two factor groups. This, combined with the strength of the financial environment, determines the financial strength of a government. Then, the broadest approach, combined with other risks, will develop the risk rating of sovereign debt.

There are indicators for each group of factors for which the methodology defined a valuation range and a weight. Based on this value, the rating can range from VH+ (being the best value) to VL– in a total of 15 categories.

The economic environment factor group is evaluated on the basis of seven indicators. These are:

- the pace of real economic growth,
- its volatility,

- place in the competitiveness ranking of the World Economic Forum (GCI index),
- nominal GDP,
- GDP per capita,
- growth rate of loans and
- other factors.

The latter includes, for example, the size of the economy, the equilibrium problems of development, the availability of natural resources and structural changes. It can be found that the application of the GCI index and other factors adds a great degree of subjectivity to the evaluation, and there are no clear criteria for when and how other factors should be applied.

For the institutional factor group, the methodology uses the governmental effectiveness index of the World Bank, the rule of law index and the corruption index, as well as the inflation rate and the correction indicator. In the methodology, the latter includes the successful implementation of government programs and other comprehensive criteria which, however, are not named in detail.

Corrective factors can be found in the factor group 'strength of the financial environment'. These include, for example, the trend of public debt, the ratio of gross external debt to total debt and other unnamed factors.

The factor group 'strength of the propensity for risks to occur' includes Moody's market evaluation indicator and the external vulnerability index. The market evaluation index contains the previous evaluation determined earlier. This is a problematic methodological solution because it measures the performance of a given period with an indicator for an earlier date. In contrast, the external vulnerability index is based on objective sub-indicators, as its value is determined by the current balance of payments, the size of reserves and the net international investment position.

The evaluation of each of the groups of

factors is calculated taking the value and weight of the indicators they contain jointly into account.

The evaluation of economic resilience is obtained through the assessment of the first two factor groups, which can be determined with the help of a matrix. The vertical dimension of the matrix shows the strength of the institutional environment and the horizontal dimension the strength of the economic environment.

This, combined with the strength of the financial environment, also determines the financial strength of government using a matrix where the vertical axis shows economic flexibility.

The most extensive approach, combined with other risks, will develop the risk rating of sovereign debt. In the top left corner of the matrix used to determine this we find the best Aa1 rating and in its bottom right corner the worst Caa3 rating.

Publicity of the completed evaluation

The rating by Moody's is not public, only a related announcement is available on its official website. The announcement briefly and objectively presents the results of the evaluation and the values of some key indicators, but no detailed evaluation is available. All this is only available to registered users who pay a membership fee.

COMPLIANCE OF THE EVALUATIONS WITH SCIENTIFIC REQUIREMENTS

The evaluation made by international credit rating agencies will be objective if the valuation body is impartial, the evaluation methods they use are transparent and clearly defined, and the evaluation is based on pre-established methodological specifications. (Hajnal, Szűcs, 2018)

The Valuator's Impartiality

In terms of the reliability of the evaluation results, it is of prime importance that the independence and impartiality of the organization conducting the evaluation is guaranteed. Independence and impartiality are not guaranteed in cases where the organization's funding is not transparent or support is received from stakeholders that are evaluated by its evaluation system.

The credit rating agencies presented are members of a corporate holding company, which, based on the information on their website, have a wide range of activities, including financial counseling and investment brokerage. In addition, shares of SP and Moody's parent company are traded on the NASDAQ market as well. This circumstance is important in terms of the question to what extent a rating agency, whose owners carry out financial activities, can be regarded as independent and impartial.

This is illustrated by the fact that credit rating agencies did not correctly assess financial risks at the time of the financial crisis that erupted in 2008. On several occasions, they gave better ratings to risky corporate securities issued with otherwise multiple leverage. The role of credit rating agencies in this process has been analyzed in detail in Hungarian literature (Bánfi et al., 2011; Botos, Halmosi, 2010; Móczár, 2010).

Transparency and Clarity of Evaluation Methods

The basic requirement for scientific evaluation is that the methodology applied and the data sources used must be described in such detail that an independent scientific researcher could repeat the research and check the correctness of the conclusions drawn. It is a

basic requirement to demonstrate when, using what methods and what data the evaluation was made.

The methodology of international credit rating agencies for evaluating sovereign debt is publicly available, but access is limited by the fact that the SP and Moody's evaluation method is only available after registration.

The structure of the evaluation methods of international rating agencies follows a similar logic. Risks are assessed on the basis of partial assessments of a limited number of factor groups. Basically, the general method of evaluation is elaborated and its main content is described. At the same time, uncertainties and deficiency in terms of content can be found at several points in the evaluation methods.

As for FR, the definitions to interpret some of the indicators needed for the evaluation are not available. The methodology determines the weight of factor groups and indicators using regression analysis, but the details of this analysis are not revealed (when, for what period and using what data the analysis was made). In addition, the adoption of indicators used to measure competitiveness reduces the soundness and objectivity of the methodology. Furthermore, it is not clear what data will be taken into account in the mid-year reviews. The methodology provides no guidance on how the forecasts are made. Consequently, the results of the evaluation cannot be traced or verified.

In connection with SP's evaluation methodology, the problem arose that in several cases the method for rating individual groups of factors is not defined and in some cases it uses non-quantified indicators. Also, the application of specific conditions is difficult to trace. The methodology does not make it clear exactly when and under what conditions the unique conditions need to be applied. In addition, it is also unclear what happens when multiple unique conditions are applied

at the same time. Thus, the evaluator has a considerable degree of freedom in making the evaluation and in drawing the conclusion.

Moody's evaluation methodology also heavily relies on competitiveness indicators and the place in competitiveness rankings. The methodology names a number of other factors, but does not include the conditions and detailed methods for their application. In many cases, the methodology uses non-quantified indicators, such as successful implementation of government programs. A further methodological problem is that the evaluation uses the results of the previous evaluation, i.e. the current evaluation is supported by data from previous years.

Transparency of Data Used for Evaluations

FR's evaluation methodology states that the source of the data for the indicators was various publicly available data. However, the methodology document names only the IMF and the World Bank as specific data sources.

The rating announcement includes the values of seven indicators, but FR does not indicate the data source of the individual indicators. Only the risk rating is included for some additional factors identified in the methodology.

SP did not specify in its evaluation methodology the source of the data used for the indicators. With regard to the basic economic indicators, it refers to the data from the International Monetary Fund, but does not indicate the exact source of the data for the other indicators.

Moody's evaluation methodology shows the IMF, the OECD, the World Bank, the European Commission and BIS (the financial institution responsible for international settlements) as the source of the data for the

indicators. In addition, some indicators are estimated by statisticians employed by Moody's on the basis of national statistics. However, the names of the relevant indicators and the exact data source of the estimates are not included in the methodology (Ligeti, Szőrfi, 2016).

On this basis, it can be concluded that the transparency of the evaluation methods of international credit rating agencies is limited.

Measurability of the Factors in the Methodology

Data for only nine of the 18 factors listed in FR's methodology for state-issued securities is available in the announcement. The data used for these factors are as follows:

- GDP per capita,
- real GDP growth rate,
- inflation,
- deficit in the government sector,
- size of public debt,
- current balance of payments,
- and net external debt.

Each of these is a general economic indicator with clearly defined content. This is reinforced by the fact that a brief interpretation of these factors is included in the rating announcement.

In contrast, factors describing government performance and financial market processes are not explained. This is problematic from a methodological point of view, because in theory also the forecasts of the individual factors for the coming years use this data.

FR presents the indicators defined in the methodology in a separate summary table. The economic environment factor group contains 11 indicators, which include basic economic indicators (nominal GDP, real GDP growth rate, rate of investment, saving to GDP rate, export growth rate, and unemployment rate). There are 14 indicators in connection with the external environment and 8 for the

monetary environment factor group. Within the financial environment factor group, there are 10 indicators for the economic description of the budget. These indicators include the deficit according to the EU methodology, the primary balance, the centralization and redistribution ratio, the public debt indicator to describe indebtedness and the net external debt indicator as well as the ratio of liquid assets to GDP.

Similar to the methodology, SP's evaluation does not indicate the source of statistical data. In addition, the source of the projected data concerning the period 2019–2022 is not indicated either.

In addition, the methodology only identifies factors for the institutional environment factor group, but fails to define specific indicators to measure this area. For this reason, these factors cannot be measured accurately. An example for this is the free flow of information criterion or the timely availability of statistical data.

Moody's evaluation methodology includes a total of 33 indicators. Of these, 17 are clearly quantifiable and use or rely on basic economic indicators. 4 indicators stem from the WEF Competitiveness Survey, it contains 3 other factors and 9 additional indicators evaluate an economic situation. These include, for example, an increase in the ratio of non-performing loans or a lending rate above GDP growth. These indicators also have economic content, but the methodology contains no specific empirical support to justify the evaluation.

The evaluation methodology of international credit rating agencies contains a significant number of subjective elements, the content of which is not well defined. Accordingly, the evolution of the results of their evaluation is less traceable. With regard to the debt denominated in foreign currency, its detailed evaluation is shown in a 2018 study by *Hajnal and Szűcs*.

Changes in Methodology

FR tends to review its methodology on an annual basis. The publicly available methodological versions (retrospectively until 2015) do not contain any substantive changes, only a few special situations have been incorporated. These include, e.g. judging the concept of international reserve currency and taking into account the various foreign exchange market interventions in terms of the factor group 'credibility of the exchange rate policy'.

Similar to FR, SP and Moody's regularly review their methodology. The publicly available methodology has not changed much in recent years. The current methodology has only clarified the concept of the PPP scheme for SP, and Moody's has updated the concept of other factors and their interpretation.

General Approach to Methodologies

International credit rating agencies uniformly use general macroeconomic indices. However, there are many indicators describing structural balances or imbalances which are not contained in them. These include employment, tax, demographic and general health indicators. Among other things, credit rating agencies do not deal with unemployment, activity, income and general social indicators and their impacts.

For example, high GDP itself is not necessarily a reflection of the state of the economy. There are still many areas where risks may arise to jeopardize its sustainability. And vice versa: economic growth can be assured with less favourable other general indicators, but it is only necessary to take the economic and social characteristics of a given country into account.

Publicity and Transparency of Ratings

However, FR's full evaluation of the risk assessment of the countries and sovereign debt is not publicly accessible. The textual evaluation contradicts the conclusions drawn from the indicators and the methodology on several points.

SP's rating is also not public, but is available in the form of a more detailed announcement. Its evaluation is not traceable or transparent because the textual justification is not in line with the indicators. The detailed data of the evaluation are not available. A good example of this is the evaluation of the institutional environment, where only the consolidated rating value is included, but the data of the underlying indicators and their detailed evaluation are not indicated.

The rating by Moody's is not public, only a related announcement is available on its website. The announcement briefly presents the results of the evaluation and the values of some key indicators, but no detailed evaluation is available. The detailed evaluation is only available to registered users who pay a membership fee. Consequently, the publicity and transparency of its evaluation is not ensured.

CONCLUSIONS

The article pointed out that the evaluation methodologies developed by international credit rating agencies contain open elements which do not fully validate the methodological soundness of the rating. Although the evaluation methodologies of the international credit rating agencies set out the basic criteria for the evaluation of individual countries and sovereign debt, from a scientific point of view, the evaluations made cannot be regarded as credible. This can be attributed

to the subjective factors applied in the methodologies, the uncertainties regarding the data sources and the data used, the deficiencies concerning the definition of the content of the applied factors, and the lack of a precise definition of the relationships between the individual factors. This does not guarantee the reliability of the evaluation results.

As a result of the subjective methodological elements, the evaluation of indicators is highly dependent on the judgement of the evaluator, which may significantly distort the overall evaluation. This is clearly visible in the case of Hungary in terms of the evaluations carried out by international credit rating agencies in recent years. The subjective elements in the evaluation methods provide the evaluator with ample scope for modifying the results and their methodological support. However, without knowing the underlying data and the precise methodological background, the results of the evaluations cannot be fully traced or supported.

The evaluation methods developed by the international credit rating agencies do not comprehensively meet the requirements of objectivity, traceability and transparency. In practice, the independence and objectivity of international credit rating agencies as declared by financial markets is thus only limited.

The presentation of the methodological problems that have arisen in connection with the evaluation methodology of and the evaluations completed by the international credit rating agencies is also of prime importance because such ratings can have a significant impact on the financing and cost of a given country's public debt. One of the basic elements of investor confidence is the existence of favourable findings in the evaluations made by international credit rating agencies. However, when formulating positive and negative evaluations, a closed and transparent methodological background is a basic requirement of investors, the country subject to the evaluation and its citizens.

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